SIEMENS

POLYDOROS LX 30/50

AX

Planning Guide

POLYDOROS LX 30/50

Also for:
POLYDOROS LX 30/50 Lite
POLYDOROS LX 80

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Chapter	Page	Revision
all	all	01

Document revision level

The document corresponds to the version/revision level effective at the time of system delivery.

Revisions to hardcopy documentation are not automatically distributed.

Please contact your local Siemens office to order current revision levels.

Disclaimer

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General Notes

- With distribution of these revision level, all preceding planning guides, Speed Infos (PGs) and drafts lose their validity.

- All layouts issued by the Planning Departments must bear a note referring to the installation and delivery conditions of Siemens Medical Engineering. The installation and delivery conditions must be submitted with the layouts.

- Unless otherwise specified, all dimensions are indicated in "mm".

⧫ - The symbol indicates a change (see revision status).

- Orientation points
  Points specific to system components to which reference is made when positioning system components to each other or in the room.
  The isocenter of a radiographic system is always illustrated as the orientation point.

- Fixpoints
  Clearly marked points on system components, installation ceiling, walls or floor on which cable outlets are located.
  Illustration in the drawings: octagon with letter/number-combination.
  The cable lengths specify the maximum fixpoint distances and thus the maximum distances between the individual system components.

- Room height
  The room height is the distance measured from the top surface of the floor to the bottom surface of the ceiling structural elements (Unistrut rails) (bottom surface of drop ceiling).

- Room lighting
  According to DIN 68 68-57 (international standard in preparation), the lighting in rooms in which image playback devices (monitors) are used for diagnosis, the following requirements must be met:

  adjustable, no anti-glare screen, reproducible adjustment of the lighting (e.g. dimmer with scale),

  no glare or reflection from windows, lights and light boxes in the standard working position of the monitors.

Hotline + 49 (9191) 18 - 8080

Safety

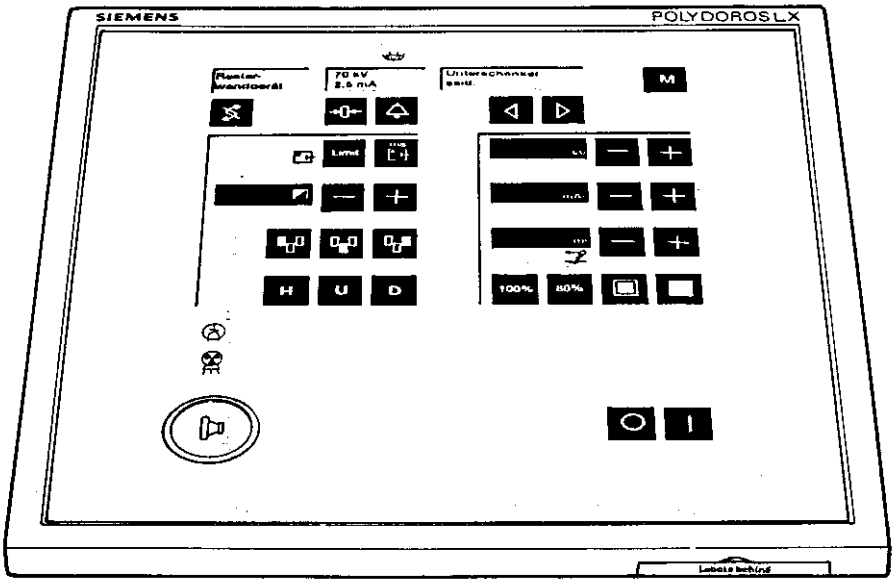
- The provisions of the relevant fire safety regulations must be observed for the premises.

- The system has been developed according to EN 60601 - 1.

- Minimum dimensions (e.g. room heights, safety distances) indicated in the planning guides are marked "min."

- Basic strength against electromagnetic sources of interference.
  Result of lightning discharges.
  The protection targets of the different lightning protection areas up to the unit connection are also specified in the IEC 1024, DIN 48810, VDE 0675 and in the DEMVT recommendations.

System Configuration



Power distributor

To be provided by the customer close to the system (recommendation)

External loads

Do not connect to the power supply source:

E-machines, air conditioners, elevators and general external loads

Cables belonging to other systems

Provide for shielding measures or disconnect from all generator cable groups

High voltage cables (max. 24 m)

Run them separately from the power cables, control cables and signal cables

X-ray tube assemblies

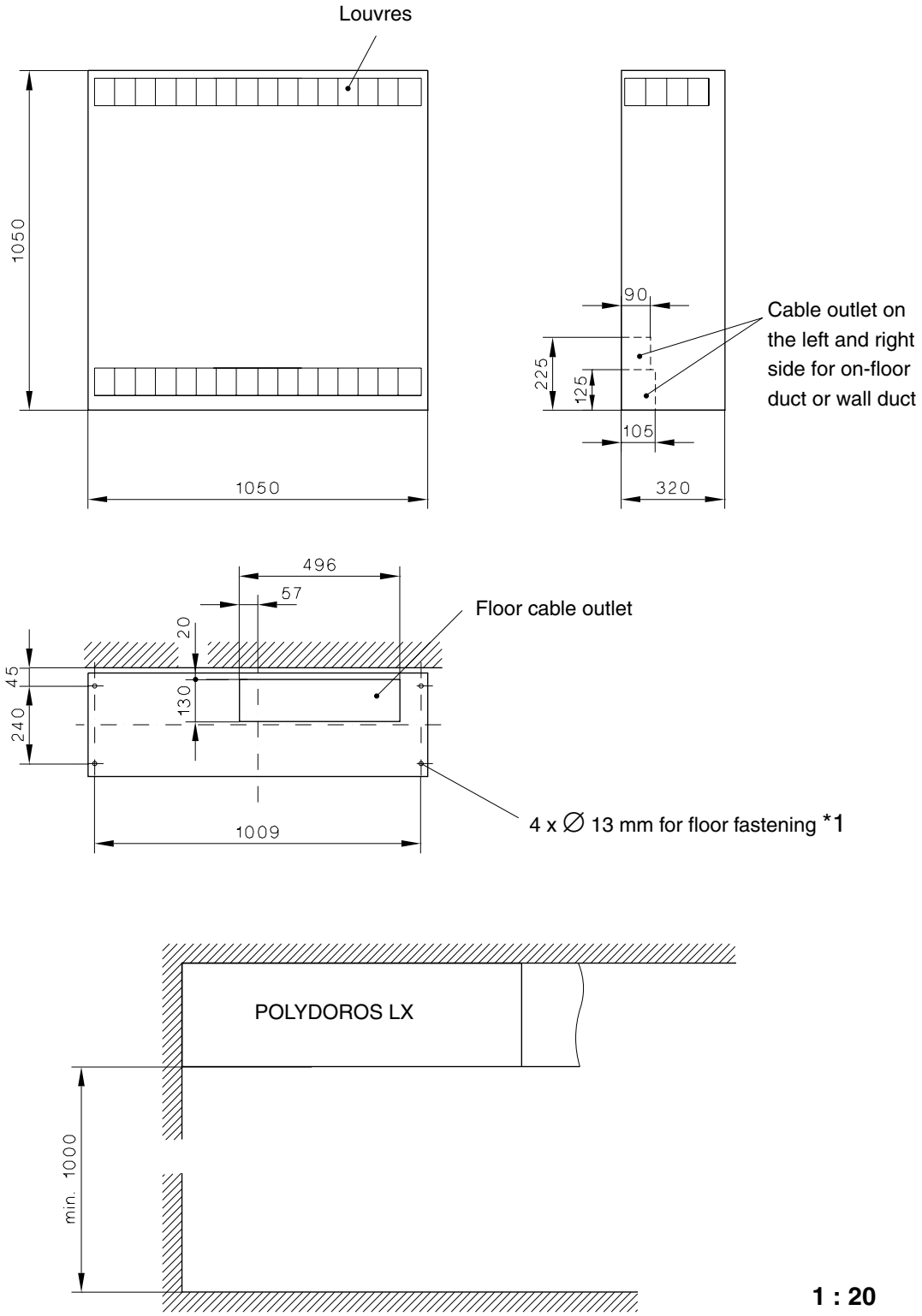
Max. 2 tube assemblies can be connected

(LX 30/50 Lite only 1 tube assemblies)

ZA (central power line connection)

Can be installed in an additional standard cabinet (option)

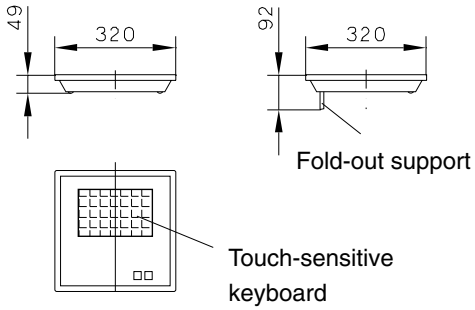
Dimensions of Generator Cabinet



*1 Fastening materials are included in the shipment; 4 x B12/115 Liebig anchor bolts
The instructions from Liebig must be observed.

Dimensions of Control Console

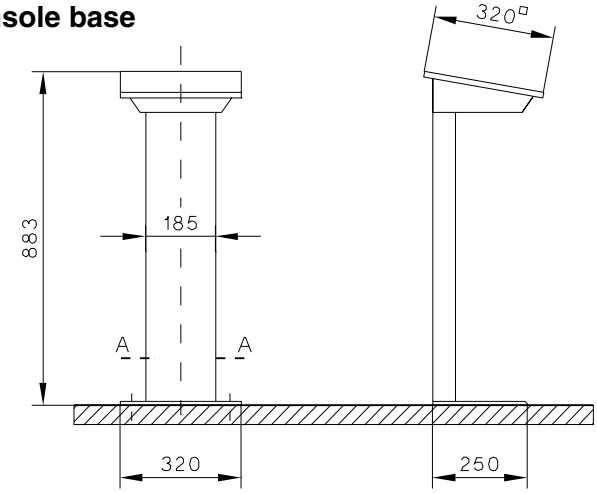
Generator Control Console



NOTE

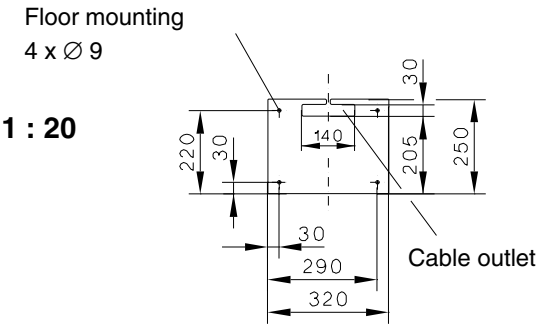
The generator console can be installed directly on the generator.
The generator cover panel has already been provided with the fastening holes and the cable outlet so that the control console can be installed centered on it.

Generator control console with console base

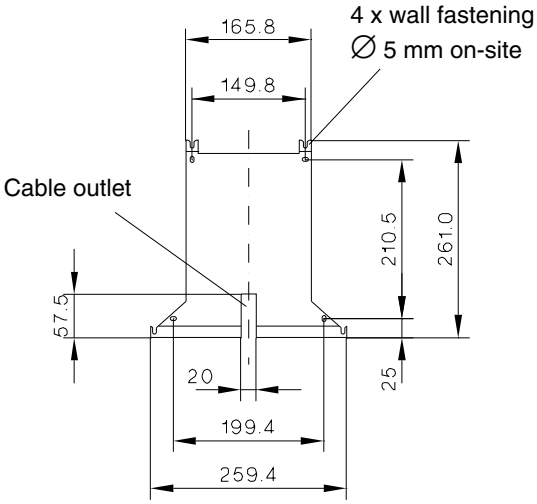


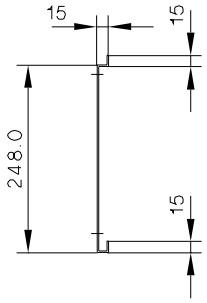
Console base floor fastening

Section A - A



Wall bracket for generator control console



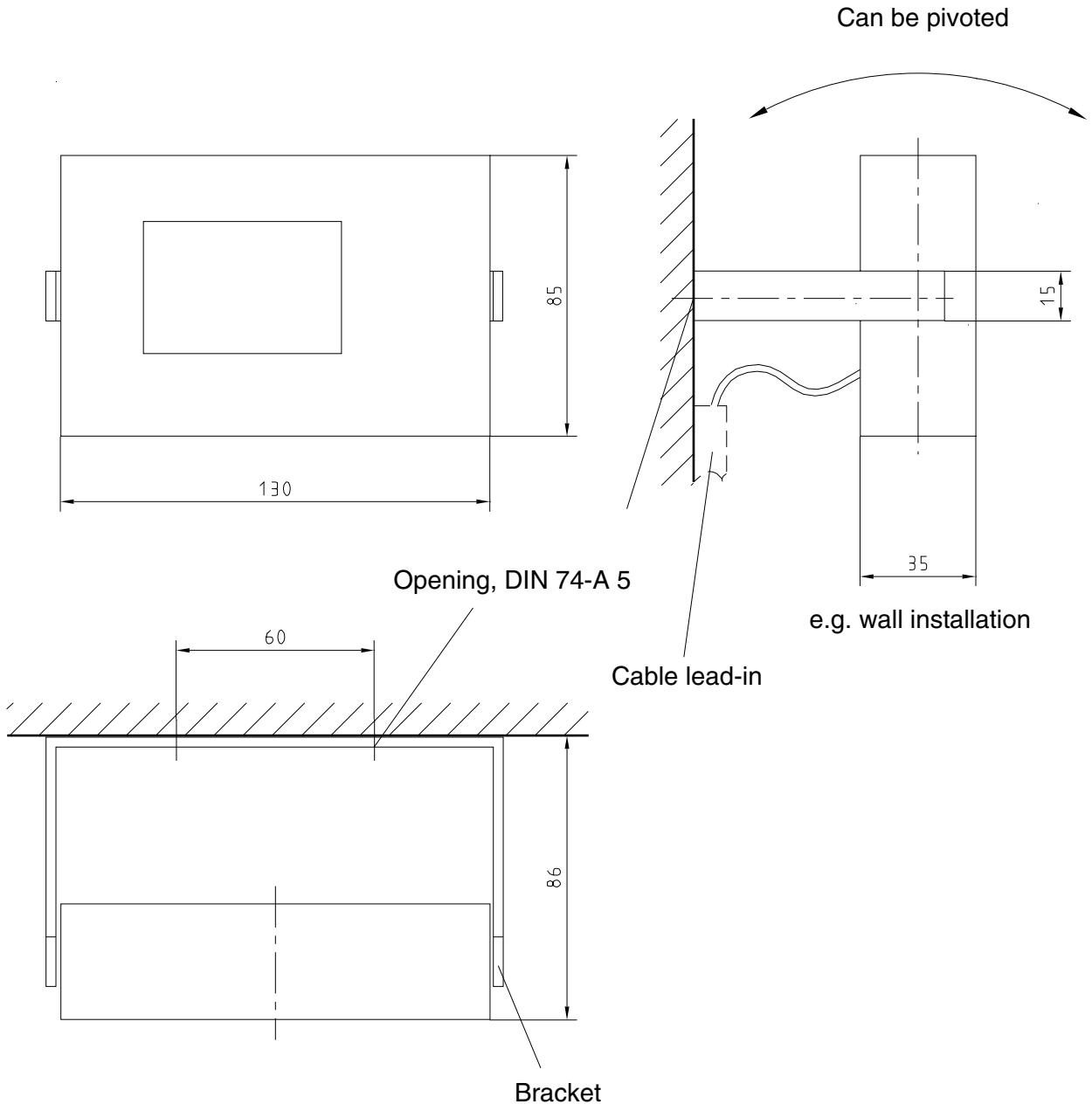


1 : 10

NOTE **The generator control console is mounted in the wall bracket.**

Dimensions of KermaX Duo Master Display

Installation in the Vicinity of the Generator Control Console



1 : 2

Obtain installation materials locally.

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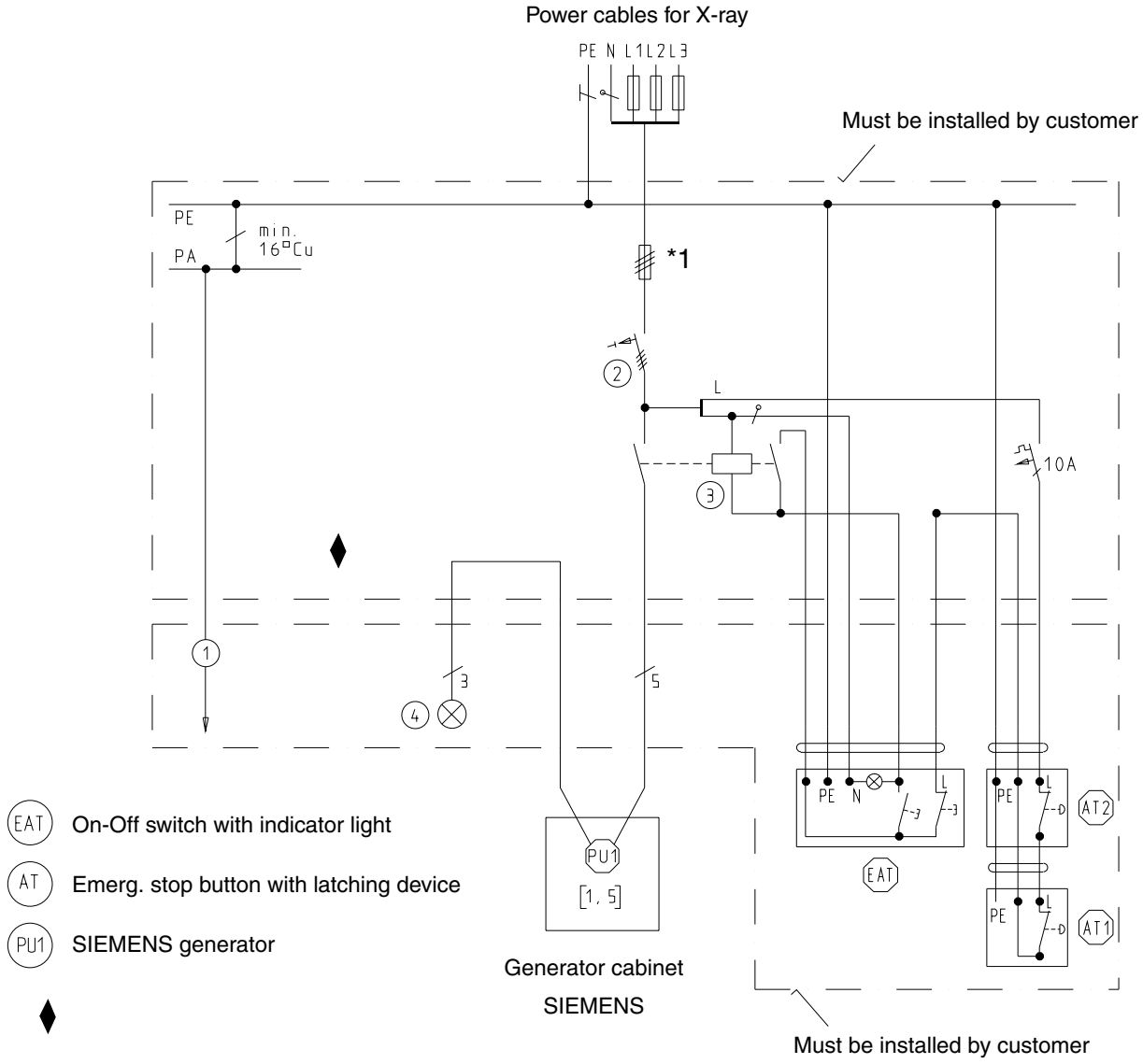
⧫ On-site Electrical Installation

Proposal for on-site line power distributor per DIN VDE 0100-710 or national regulations



*1 50 A/C with the PL LX 30/50 and LX 30/50 Lite, 63 A/C with the PL LX 80

1 To external conductive parts

⧫2 Per DIN EN 50178 Classification VDE 0160, *"Equipping of High Voltage Systems with Electronic Control Elements"*, the following FI safety switches must be used exclusively:
At U(N) = 3 ~ 400 V: I(N) = 63A, IdN = 30 mA for alternating and pulsed as well as smooth DC fault currents.
- Order from a wholesale electrical supplier, Order No. FI 5SZ3 466 0KG05 all-current sensitive
- Order from SPH2 (Med Department, previously INAK: Part No. 49 54 470 Y7933)
- (Width of the FI safety switch is 144 mm = 8TE, installation on standard rails)

For countries in which this norm does not apply, the following FI safety switches can be used with voltages > 400 V:
At U(N) > 3 ~ 400 V; I(N) = 125 A, IdN = 30 mA
- Doepke-Norden (order from SPH2, Part No. 51 41 168 Y7933)

3 System breaker

4 Option: Radiation warning lamp

[ ] Numbers are free cable lengths in m

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Notes on Laying Cables

Suggested cable run

Cable duct depth 60 mm

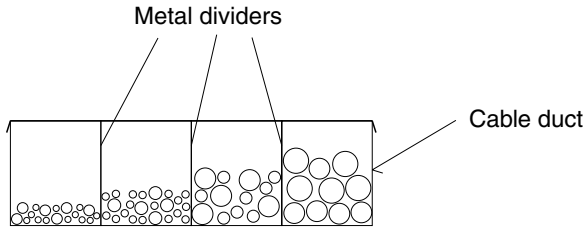
if required, deeper at cable crossovers.

Lay high voltage and power cables separately from control and video cables
(use shielding if possible).

Make absolutely sure to:

Avoid cable looping and, as far as possible, crossovers.

- Lay cables in separate conduits or closed cable ducts.
- If open cable ducts are used, lay the cables separately using metal dividers or similar devices.

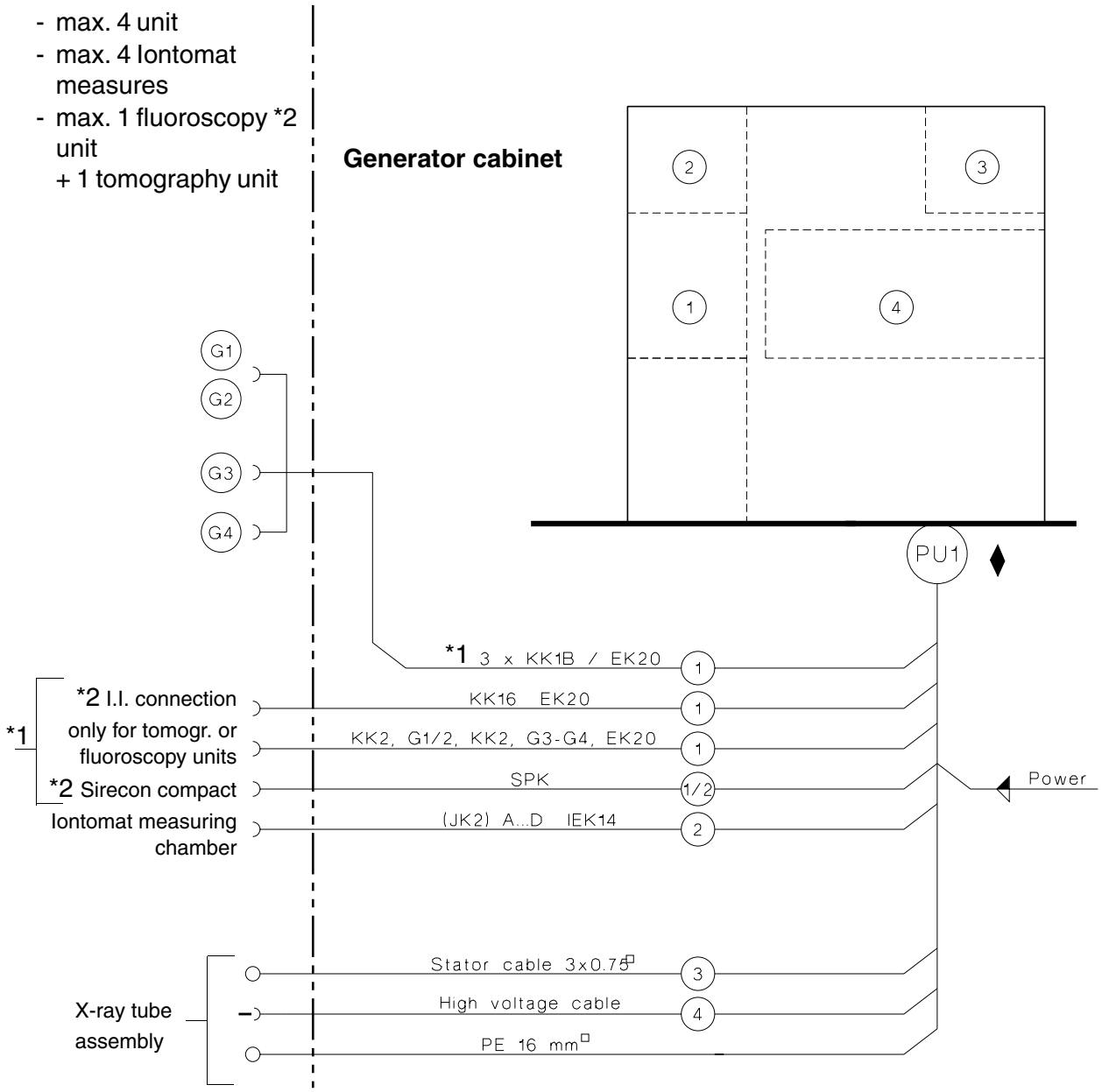


Overview

Unit side

for the connection of:

- max. 4 unit
- max. 4 Iontomat measures
- max. 1 fluoroscopy *2 unit
  + 1 tomography unit

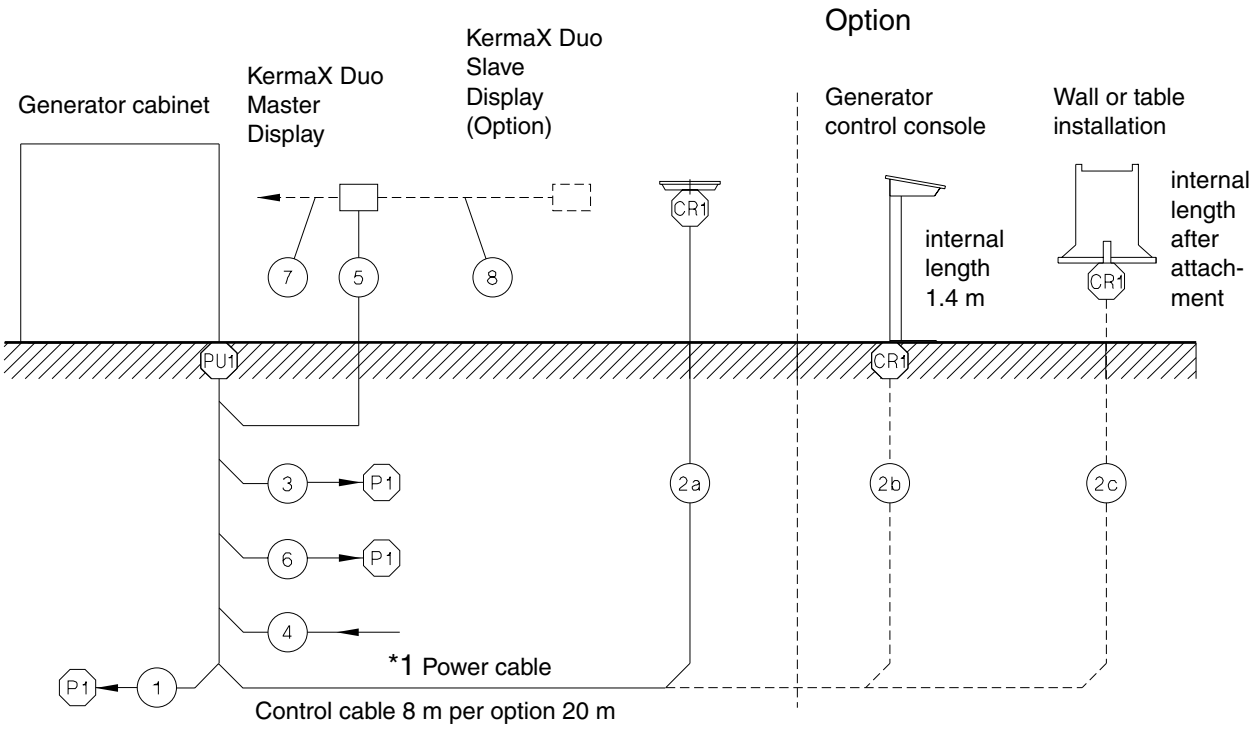


*1 For systems with XCS Communication system, the KK interface and thus the cables to be connected are not applicable

*2 Not applicable with the LX 80 and LX 30/50 Lite (no fluoroscopy)

NOTE	**The relevant PGs must be observed for system shipments!**

Layout of Fixpoints



*1 Calculate the cross section for the main power cable of the generator accordingly.
Per IEC 601-1, the minimum cross section for the LX 30/50 is 10 mm^2, for the LX 30/50 Lite, it is 10 mm^2.

For LX 80, 16 mm^2 minimum cross section, not per IEC 601-1

List of Fixpoints, POLYDOROS LX 30/50

Cable harness No.	from fix-point	to fix-point	Cable duct cross-section in mm^2	Conduit, diameter inside in inches	Minimum opening in mm	Maximum fixpoint distance in m	Remark
1	PU1	P1	1100	2	46 x 24	—	P1 = Unit connection
2a	PU1	CR1	550	2	46 x 12	8	Option: 20m
2b	PU1	CR1	550	2	46 x 12	6.6 or 18.6	Option: Console base
2c	PU1	CR1	550	2	46 x 12	approx. 8 or 20	Option: Wall or table installation, max. fix-point distance depending on attachment length
3	PU1	P1	2200	3	∅ 42	—	High-voltage cable
4	PU1	—	—	—	—	—	On-site power cable
5	Kermax Master	PU1	280	1	∅ 15	22.5	Patch cable
6	Kermax Master	P1	280	1	∅ 15	—	Patch cable shipped length: 24 m
7	Kermax Master	*1	280	1	∅ 15	—	Patch cable (option) shipped length: 24 m
8	Kermax Master	Kermax Slave	280	1	∅ 15	24	Patch cable (option)

*1 to 2nd work station (3D stand or Floor-Ceiling stand)

List of Fixpoints Used

Fixpoint	Subsystem	Remark
P1	Unit	Floor fixpoints
CR1	Generator control console	Floor fixpoints
PU1	Generator	Floor fixpoints

Electrical Data

	Power supply	Input power		Internal fuse
		Fluoroscopy	Radiography	
POLYDOROS LX 30	3/N/Gnd, ~ 400/440/480 V ⧫ -15 +10% *1, *2 50/60 Hz, ± 1 Hz	1.2 kVA	56 kVA	35 A slow-blow
POLYDOROS LX 30 Lite	3/N/Gnd, ~ 400/440/480 V ⧫ -15 +10% *1, *2 50/60 Hz, ± 1 Hz	n.a.	56 kVA	35 A slow-blow
POLYDOROS LX 50	3/N/Gnd, ~ 400/440/480 V ⧫ -15 +10% *1, *2 50/60 Hz ± 1 Hz	1.2 kVA	94 kVA	35 A slow-blow
POLYDOROS LX 50 Lite	3/N/Gnd, ~ 400/440/480 V ⧫ -15 +10% *1, *2 50/60 Hz, ± 1 Hz	n.a.	80 kVA	35 A slow-blow
POLYDOROS LX 80	3/N/Gnd, ~ 400/440/480 V ⧫ -15 +10% *1, *2 50/60 Hz, ± 1 Hz	n.a.	125 kVA	50 A slow-blow

*1 A pre-transformer is required for 440/480 V (LX 30/50 and LX 30/50 Lite, Part No. 97 51 652 X1269, for LX 80, Part No. 48 19 756) that is installed in the generator at the factory.

⧫ *2 The tolerances apply to the connection terminals in the generator.

Line Resistance R_i for Generator

⧫ **(per EN 60601-2-7, max. values in Ohm at UN - 10%)**

UN (V) P (kW)	30 kW	50 kW	80 kW
400	0.44	0.17	0.11
440	0.50	0.20	0.14
480	0.64	0.24	0.16

Weights and Heat Dissipation

		Weight [kg]	Heat dissipation [W]
Generator cabinet (maximum configuration)	**LX 30/50 and LX 80**	approx. 230	approx. 300
	LX 30/50 Lite	approx. 208	
Control console		approx. 2.5	max. 20
Console base		approx. 27	n.a.
Wall bracket		approx. 1.0	n.a.

Environmental Conditions

	Operation	Transport	Storage
Admissible ambient temp.	+ 10° ... + 40° C	- 40° ... + 70° C *1	- 40° ... + 70° C *1
Admissible relative air humidity	20% ... 75%	10% ... 95%	10% ... 95%
Admissible air pressure	700 hPa ... 1060 hPa	500 hPa ... 1060 hPa	500 hPa ... 1060 hPa

*1 Limitation with oil-filled containers (high voltage transformer/tube unit) only up to - 20° C.

Packing and Transport Routes

Largest crate	L 1160 x W 560 x H 1240 mm
Heaviest single part	approx. 240 kg
Minimum door width and floor width for transport	min. 815 mm Door width approx. 940 mm Floor width

Paint Colors

Main color	Medical white C610
Combination color	Neutral gray C612
Info on spray cans and paint sticks can be found in the Project Manager Handbook (PMH) Chapter 1	

Chapter	Page	Change
0 - 6		The entire PG changed from 021 to 891 (Rev. level set to 01)
3	3-1	On-site Electrical Installation updated.
4	4-2	Fixpoint updated.
4	4-3	Fixpoints in the Overview and *1 text updated.
4	4-4	Fixpoints in the Fixpoint List and list of Fixpoints Used updated.
5	5-1	Technical data updated and *2 text added.
5	5-2	Paint colors updated.
6	6-1	Chapter, Transport Conditions, eliminated and replaced by Changes to Previous Version.

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